



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/530,085	08/14/2000	STEPHEN JACOBS	A31222-PCTUSA	3842
21003	7590	06/14/2005	EXAMINER	
BAKER & BOTTS 30 ROCKEFELLER PLAZA NEW YORK, NY 10112			MEHRA, INDER P	
			ART UNIT	PAPER NUMBER
			2666	

DATE MAILED: 06/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/530,085	Applicant(s) JACOBS ET AL.	
	Examiner Inder P. Mehra	Art Unit 2666	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 January 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 August 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. This is in response to both amendment dated: 1/10/2005, which has been fully considered and made of record. Based on this amendment; claims 1,3-5, 7-8, 13, 15-17, 19-21, and 25 have been amended., Claims 1-36 are now pending.

Claim Objections

2. Claims 1, 13 and 25 are objected to because of the following informalities:

Claim 1 recites “maintaining a current estimate of bandwidth available” in line 6, and “adjusting the data flow” in line 8. These are preceded by same limitations in line 3 and line 5 respectively. Change “a” to “the”. Similar problems exist in claims 13 and 25. Appropriate correction or clarification is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1, 13 and 25 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1, 13 and 25 recite limitation “an acceptable sequence of data” in line 6. Is it referring to “packet sequence” or “time sequence” of data. It is confusing.

Appropriate clarification is required.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1, 3-13, 15-25, and 27-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Keshav** (US Patent No. 5,627,970) in view of **Derby et al** (US Patent no. 5,359,593), hereinafter, **Derby**, and further, in view of **Yin et al** (US Patent No. 6,490,251), hereinafter, **Yin**.

For claims 1, 11, 13, 23, 25, and 35, Keshav discloses a method and system for achieving and maintaining data transmission rates (bandwidth) including techniques for data transmission initialization between a source and a destination node in a digital data network, refer to abstract, col. 1 lines 5-11, comprising the steps of:

- means for maintaining an estimate of bandwidth available from source node from to the destination node, refer to abstract (*maintaining data transmission rates (B/W)*), col. 6 lines 9-15 (*maintaining nodal data transmission rates (B/W)*), col. 7 lines 10-15 (*network can guarantee a nominal bandwidth — estimate*); and
- means for adjusting the data for transmission in real time based on the estimate in order to maintain a proper time sequence of data received by the receiver,

Art Unit: 2666

refer to “*adaptive transmission rates (B/W)*”, refer to abstract and step 502 in fig.

5, col. 1 lines 60-62 (*adjust data transmission rate*), col. 6 lines 15-19, col. 6

lines 27-30 (*transmission bandwidth (data rate) is ----adjusted*).

“*dynamically adjusted*”, col. 6 lines 25-31, col. 7 lines 5-15.

- Further, Keshav discloses “*in proper sequence*”, refer to col. 8 lines 1-5
(sequence number which represents each data packet’s position within a
sequence of transmitted data packet,), col. 8 lines 17-19 (sequence number to
each data packet is that of the last in-sequence data packet),

Keshav does not disclose expressly, “real time” and the following limitations, whiare disclosed by Derby and Yin, as follows;

Derby discloses , “*real time data delivery*”, refer to col. 5 lines 50-55; also discloses, “*adjusting transmission based on the estimate in order to main real time transmission*”, refer to abstract, col. 1 lines 10, 18-25, and col. 2 lines 30-33. Derby also discloses in col. 16 lines 40-42 (*maximum rate at which data can be adjusted*).

“wherein maintaining a current estimate of bandwidth available comprises a measure of congestion. and wherein adjusting the data flow for transmission in real time comprises dropping a data frame in response to the measure of congestion.”, (when the network becomes congested, for example, when an intermediate system in the network becomes overloaded due to unavailable bandwidth or lack of buffer space, TCP packets may be dropped, refer to col. 2 line 65 through col. 3 line 3, and col. 14 lines 15-25).

Art Unit: 2666

It would have been obvious to a person of ordinary skill in the art at the time of invention to compress video data before transmission across the network. A person of ordinary skill in the art would have been motivated to employ Derby's Dynamic bandwidth estimation and adaptation and Yin's apparatus for communicating congestion, into Keshav's system for a method and apparatus for achieving and maintaining optimum transmission rates in order to compress video data for transmission. The suggestion/motivation to do so would have been to optimize the use of bandwidth and storage space.

For claims 3, 15, and 27, the system of Keshav monitors packet loss based on acknowledgments from the destination node, refer to col. 7 line 60 through col. 8 line 5;

For claims 4, 7, 16, 19, 28 and 31, Keshav discloses maintenance of count of packet/bytes, refer to col. 7 lines 66, to col. 8 line 2;

For claims 5, 6, 8, 9, 17, 18, 20, 21, 29, 30, 32, and 33, Keshav discloses maintaining the data transmission rates of as to how many packets/bytes are allowed to be transmitted (upper bound) , refer to abstract, in accordance with TCP (IP) congestion window, refer to col. 2 line 31.

For claims 10, 12, 22, 24, 34, and 36, the system of Keshav also retransmits a packet which has been determined as a lost packet at the destination node, refer to col. 8 lines 32-35.

Art Unit: 2666

7. Claims 2, 14, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Keshav, Derby, and Yin, as applied to claims 1, 13 and 26 above, and further in view of **Gittins et al** (US Patent no. 5,526,350), hereinafter, Gittins.

For claims 2, 14, and 26, Keshav Derby, and Yin disclose all the features of the subject matter, including the transmission of the system utilizing IP protocol which supports transmission in real time, refer to col. 5 lines 48-53, as explained in paragraph 3 above, with the exception of the following limitation of claims 2, 14 and 26:

- data comprises video data;

Gittins discloses data comprises compressed video data, refer to col. 7 line 21-23;

It would have been obvious to a person of ordinary skill in the art at the time of invention to compress video data before transmission across the network. A person of ordinary skill in the art would have been motivated to employ Gittins's communication network into Keshav's system for a method and apparatus for achieving and maintaining optimum transmission rates. in order to compress video data for transmission. The suggestion/motivation to do so would have been to optimize the use of bandwidth and storage space.

Response to Arguments

8. Applicant's arguments filed 1/10/2005 have been fully considered but they are not persuasive.

Applicant argues that the cited references Keshav, Derby and Gittins, whether taken individually or in combination, do not show all the elements of the applicants' inventive methods and systems for data modification/transmission in an uncongested manner over a network.

Art Unit: 2666

In response, it is stated that Derby, refer to office action above, discloses real time data, refer to col. 5 lines 50-55.

Keshav discloses (maintaining data transmission rates (B/W), col. 6 lines 9-15 (maintaining nodal data transmission rates (B/W)), col. 7 lines 10-15 (network can guarantee a nominal bandwidth ----estimate), Gittens col. 1 lines 50-52 (predetermined (estimated) amount of B/w), lines 55-57 (guarantee minimum level of B/W), col. 7 lines 20-25.

Keshav discloses “**adjusting the data for transmission according to the available bandwidth, so that the receiver receives the transmitted data in a timely manner, in a acceptable sequence**”, (adaptive transmission rates (B/W), refer to abstract and step 502 in fig. 5, col. 1 lines 60-62 (**adjust data transmission rate**), col. 6 lines 15-19, col. 6 lines 27-30 (**transmission bandwidth (data rate) is ----adjusted**). Derby also discloses in col. 16 lines 40-42 (*maximum rate at which data can be adjusted*). Further, Keshav discloses “**acceptable sequence**”, refer to col. 8 lines 1-5 (sequence number which represents each data packet's position within a sequence of transmitted data packet,), col. 8 lines 17-19 (sequence number to each data packet is that of the last in-sequence data packet),

Applicant argues that none of the cited references shows, teaches, or suggests dropping data frames in response to network congestion in a manner which preserves the usefulness of received data set. In response, it is stated that Yin discloses discarding packets during congestion, refer to “when the network becomes congested, for example, when an intermediate system in the network becomes overloaded due to unavailable bandwidth or lack of buffer space, TCP packets may be dropped, refer to col. 2 line 65 through col. 3 line 3, and col. 14 lines 15-25).

Art Unit: 2666

In the light of above explanation, arguments by applicant are not persuasive.

9. Applicant's amendment to claims 1, 13 and 25 necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Inder P. Mehra whose telephone number is 571-272-3170. The examiner can normally be reached on Monday through Friday from 8AM to 5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on 571-272-3174. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2666

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Inder Pal Mehra
Inder P Mehra 6/5/05
Examiner
Art Unit 2666



DANG TCN
Patent Examiner